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VOL. XIV, No. 25. DECEMBER 6, 1917

THE JOURNAL OF PHILOSOPHY
PSYCHOLOGY AND SCIENTIFIC METHODS

THE STATUS OF EPISTEMOLOGY

CERTAIN recent attacks upon epistemology are, if allowed validity, so destructive of the usual conception of philosophy that they demand serious consideration. Those who are convinced that epistemology is a genuine reflective science which is called out by the facts of both common sense and science are bound to ask themselves whether there has not been some misunderstanding. Is this severe indictment directed against epistemology as they conceive it, or against what they would regard as an outgrown interpretation of its setting and problems? I have asked myself this question while reading Professor Dewey's scathing attack upon epistemology, and have been led to answer—to use the appropriate phrase for such events—"Epistemology is dead, long live epistemology." The present paper will be an attempt to explain what I mean. Because the pragmatists have so often complained that their views, though containing new analyses and new modes of approach, have been given traditional labels and condemned without that sympathetic hearing to which they were entitled, I have hope that they will try to do for what claims to be a new movement that which they desired for themselves.

It may be a help to the interpretation of my thesis if I say that there is practically nothing in their theory of the growth and testing of concrete human knowledge from which I dissent. Where I part company is afterwards. They do not seem to me to take knowledge seriously enough. I know that a grieved expression will come over their faces at this saying, yet I can not help it. But my assertion needs explanation. In one sense, they take knowledge as seriously as I do or as any one could. Knowledge is valuable because it solves problems and is applicable to similar situations. It consists of ideas which are validated in specific, empirical ways. Such ideas enable us to control things in relation to plans and purposes which arise out of the experimental and adventurous character of human life. With this I agree. There is nothing of the quietist about my outlook. But the pragmatist has not been empirical enough. Perhaps

he has not had time to be. He has been so busy demolishing absolute idealism and all forms of the neo-Kantian movement that he has not been able to look beyond the negative side into the positive possibilities. And this brings me to my thesis. Achieved knowledge actually does claim to be cases of knowledge of reality. Examine the field of the individual's experience carefully and you will find distinctions which furnish the basis for this *empirical* reference of cognitive ideas to that which can not be literally present in the field of experience. The concrete individual does, and can, distinguish between his consciousness (his changing field of experience, not the psychologist's artifact) and a realm which his achieved ideas can intend as their object. So interested have the pragmatists been in the temporal dimension of experience that they have not made the exhaustive empirical study of the coexistential dimension that is needed. But such an examination would supplement their conclusions and enable pragmatism to outgrow that vagueness on, and hostility to, the questions of traditional philosophy which is a sore point with both them and their opponents.

It has been one of my convictions that modern philosophy rests upon an acceptance of the inability to carry through successfully any form of representative realism. Berkeley riddled Locke's representative realism with its naïve, copy notion and its assumption of an unknowable substance possessing qualities somehow reproducible in the minds of individuals. Hume admitted the validity of Berkeley's criticism. Kant did not go beyond this point, for his is an agnostic realism. The objective idealists left mental pluralism for a consciousness-in-general and cut the Gordian knot by simply eliminating the thing-in-itself. That is, they ignored the problem instead of solving it. Now the pragmatists are inheritors of this tradition. They come of idealistic stock epistemologically. While disliking absolutism, they equally dislike mental pluralism and any suggestion of a renewed attempt to carry through some form of representative realism by means of a new analysis of the meaning of knowledge. In one sense, they can not be blamed for this attitude. The neo-realists are equally dogmatic in their rejection of any hope in re-analyzing representative realism in the light of modern science and logic.[1] Comprehensible as this general attitude is, I believe it to be the great mistake of modern philosophy. May not the knowledge achieved by science be other than an attempt either to apprehend extra-mental entities or to gain images *like* such assumed entities? May it not consist of propositions referred to an acknowledged realm outside the individual's consciousness as accepted knowledge about it? The content of such knowledge could be empirically studied.

[1] Cf. *The New Realism*, pp. 4–5.

The tests of it would be those used in science and accepted by the pragmatists themselves.

I have given chapter and verse for the neo-realists. It is not difficult to do the same for the pragmatists. In his excellent address entitled "Beliefs and Existences," Professor Dewey demands a revision of the theory of inquiry, "a revision which should cease trying to construe knowledge as an attempted approximation to a *reproduction of reality* under conditions that condemn it in advance to failure; a revision which should start frankly from the fact of thinking as inquiring, and purely external realities as terms in inquiries, and which should construe validity, objectivity, truth, and the test and system of truths, on the basis of what they actually mean and do within inquiry."[2] But is not this disjunction dogmatic? Can we not give up any such ideal of knowledge as the one criticized and still hold that inquiry as a process must lead to some kind of knowledge as a product? *What kind of knowledge* is an empirical matter to be studied in the light of the facts.

In a recent book,[3] I have made a fairly complete analysis of the distinctions within the field of the individual's consciousness. It is my conclusion that the individual possesses the distinction between his consciousness and a realm which controls it, consisting of other persons and the continuous world of physical things. At the level of natural realism, this distinction allows the equal presence of both consciousness and what Professor Dewey calls external realities. It is at this level that the pragmatist wishes to remain. He may want to deepen both terms, but he is satisfied with the outlook. Situations are objective. While reading up recently for a course in which I had to interpret pragmatism, I reexamined Moore's *Pragmatism and its Critics*. I fully sympathize with his surprise that critics cried "subjectivism." They should have cried, "No epistemology at all." Professor Dewey has fortunately done this and it is their fault if they continue to accuse pragmatism of subjectivism. But Professor Moore's admissions are worthy of more attention than they have received. He writes: "On the contrary, *the* individual consciousness is regarded as an element inside the 'situation.' The 'situation,' if you will, is the pragmatist's absolute. *Just how the individual is constituted, just what is his rôle in the situation, are questions demanding more serious attention from pragmatists and absolutists alike than they have so far received.* The array of assumptions, masked behind the line of personal (and may I add social?) pronouns thrown up on every page of philosophic writing,

[2] *Influence of Darwin on Philosophy and Other Essays*, p. 186. Italics mine.

[3] *The Essentials of Philosophy*, Ch. X.

is, in Mr. Bradley's phrase, 'scandalous.' "[4] Now for the purposes of logical analysis, this outlook of a more flexible natural realism is adequate. Hence, the pragmatists have contentedly remained there, crying, "The situation is objective." And it is the critical realist who seeks to analyze the whole situation more thoroughly to see whether he must raise himself to a more reflective level. May not the whole objective situation *as experienced* be within the field of the individual's experience (his consciousness) and be a function of the doing and suffering of the individual—to use Professor Dewey's phrase—in dynamic relation to his environment? That is the thesis of the critical realist.

Let us now pass to Professor Dewey's interpretation of epistemology. "The problem of knowledge as conceived in the industry of epistemology is the problem of knowledge *in general*—of the possibility, extent, and validity of knowledge in general." What is this knowledge in general? He does not deny that we can make general statements about knowledge, and asserts that the problem of attaining these general statements is a genuine one. In other words, the science of logic exists. What he has in mind when he speaks of knowledge in general is a kind of knowledge which implies a difference between experience and the world. "The problem of knowledge *überhaupt* exists because it is assumed that there is a knower in general, who is outside the world to be known, and who is defined in terms antithetical to the traits of the world."[5] His argument thus runs that the old setting of epistemology implied a supernatural knower not immersed in the world as a highly organized part of it. But I challenge Professor Dewey to be more naturalistic in his thinking than I, and yet I believe that the various human organisms doing and suffering in their dynamic continuity with their environment achieve knowledge within their consciousness, a knowledge empirically referred to the world of which they are part. If this empirically motivated reference, which yet involves no literal transcendence, comes under his condemnation as knowledge in general, my reply is that he is not a true empiricist. He has been so busy fighting old supernaturalistic views, pre-evolutionary views, that he dogmatically assumes that epistemology implies some sort of ontological dualism.

Thus my understanding of experience is essentially the same as his. I claim that I have learned from James and himself to take experience as it is given, as concrete, full of relations and references, undergoing reconstruction, an experience which is a function of many conditions. But I hold as he does not, though on the whole

[4] *Pragmatism and its Critics*, p. 146.
[5] *Creative Intelligence*, p. 33.

James did, that each individual has his own experience which he can not literally share with another. The mistake of the Chicago School has been this too facile adoption of experience-in-general. In spite of himself, Moore seems to be uneasily conscious of the problem. He stills it by an appeal to the teaching of social psychology. But all that the social psychologist teaches is that the individual's consciousness is controlled by his relations to his fellow men. Hence, it is the pragmatists who lean on something *in general*. Mental pluralism does not involve social atomism. Mental conditions are functions of individuals in dynamic relations with their environment, whether organic or inorganic, whether human or animal.

I have suggested certain reasons why the pragmatists tend to stop their analysis with this blanket-term, experience, which means the objective situation. To bring them together, they are (1) the identification of consciousness with a psychological artifact instead of with the actual field of the individual's experience; (2) the acceptance of naïve realism with thought as a process within the objective field; (3) the unconscious influence of the tradition of objective idealism as against realism; (4) the assumption, due to that tradition, of the impossibility of working out a new form of representative realism. Thus I am convinced that Professor Dewey has a whole epistemology without giving it its traditional name. Evidently, he is persuaded that his outlook follows so inevitably from the biological facts that no other interpretation of these facts is possible, a perilous assumption for a philosopher to make and near akin to dogmatism. As I understand the implications of his argument, any other position is supernaturalistic and dualistic. It is this implication that I challenge.

But criticism is not enough. Let me suggest another position and define epistemology in relation to it.

Actual consciousness is the concrete field of the individual's experience. At the level of natural realism, this field is divided into two elements, consciousness and the external objects. Reflection, however, forces the individual to advance consciousness to include the whole field. As he thinks, solves problems, the relations and characters of these objects change. They secure meanings and inter-references which are of use for the furtherance of the plans of the individual. Once we realize that this flexibility of objects is due to the fact that they are objects within the individual's experience (consciousness) the conflict with the meanings of natural realism, commonness, independence, and perdurableness, ceases. But the problem of the nature of knowledge arises in an acute form. These given objects must be mental substitutes for a controlling realm to

which the individual organism must adapt itself. They are valuable as means of adjustment; they are cues for behavior. They are not cases of knowing (Professor Dewey is perfectly right there), but of given experience. They may furnish the foundation and means for knowing, but they are not other than they are experienced as.

But reflection will not rest here. The structure of the field of the individual's experience is realistic, as the pragmatists admit. The nature of this structure is an empirical problem. Examining it, I have come to the conclusion that there are two meanings for knowledge within it. The one has been stressed by traditional philosophy and, to-day, by neo-realism. It is that knowing is a case of presentation or presence. So far as Professor Dewey is a naïve realist, he implicitly admits this, but refuses to see any problem in it.[6] It is not knowing, as he understands that term. The second meaning of knowledge is cognitional reference, intended meaning, which may be true or false.[7] Let us examine this second type of knowing somewhat carefully.

This *empirical* transcendence is described as follows: "The thing meaning is one thing; the thing meant is another thing, and is (as already pointed out) a thing presented as not given in the same way as is the thing which means. It is something *to be* so given." In other words, we can think of something not present, but this something must in its turn be present. I accept this interpretation for the level of natural realism. But the question I would raise is: May not the facts within the field of experience in its co-existential dimension enable and force reflection to distinguish between the field of the individual's experience and that which controls it? If so, may not this empirical transcendence be utilized as the mechanism for the reference of cognitive ideas to that which is outside of consciousness? Such is the theory of critical realism.

And here we come back to the hasty alternatives assumed by Professor Dewey. "But the non-empirical account of this transcendent (or beyond) relationship puts *all* the error in one place (*our* knowledge), and *all* the truth in another (absolute consciousness or else thing-in-itself)." Not at all. In the first place, reference is never a literal transcendence. In place of "empirical transcendence" I would prefer to say "empirical reference." In the second place, truth and error are values attached to ideas which claim to be cases of knowledge, ideas which are the end-terms of

[6] That is, he refuses to break the objective situation (experience) into two parts which must be gotten together by an omnipresent cognitive relation. I refuse, but because I think that the whole field is mental.

[7] See the excellent account of empirical cognitional reference in his *The Experimental Theory of Knowledge.*

thinking, what Professor Dewey calls beliefs. I can not see, for the life of me, why things-in-themselves (the physical world) should be spoken of as possessing truth. They are no more true or false than our ordinary run of experience is.

But the real reason why so many thinkers have not considered this possibility of empirical reference to what lies outside the field of experience by means of distinctions within experience is the assumed impossibility of achieving an intelligible view of knowledge. The copy notion of Locke is admittedly bankrupt. But the truth is, that Locke never had a serious analysis of scientific knowledge. It is this which I have been trying to do.

I have been led to distinguish between a true and a false ideal for scientific knowledge. The false ideal is connected with the outlook of natural realism, *viz.*, that knowledge is the presence of the thing known. Such is the view of presentative realism. Lockian realism held that knowledge is the presence of something *like* the reality to be known, the presence of a mental substitute which is cognitively just as good as the reality, which can't be present, because it is like it. But I hold that this view and ideal of knowledge have led men on the wrong track. Knowledge consists of ideas which are empirically referred to the physical world as knowledge of it. It has nothing to do with either the presence of the physical world to inspection or the presence of a mental substitute like it. In other words, I would transform representative realism by connecting it with the second meaning of knowledge, with propositions empirically referred to the physical world as knowledge about it. When this new setting is once understood, it will at once be realized that the valid, traditional objections to representative realism do not apply to this keener interpretation of actual scientific knowledge. The old ideal of direct, or indirect, apprehension has been discarded. The result is that the philosopher has only to analyze the actual content of scientific knowledge to see what this knowledge about the physical world consists of. Does it not consist of control falling into such categories as position, structure, dynamic properties, behavior, *etc.*? And this is non-apprehensional knowledge.

Now the interesting fact is that the critical realist explains perceptual illusions in the same natural way that Professor Dewey does. Why talk about the real object in relation to a knower when what is given is one real thing in dynamic connection with another real thing? Of course, for the critical realist, the knower is a real thing, the organism; although knowledge is not perception, but rests upon it in the way that science shows. I quite agree, again, that the body ought to make a difference to the stimuli coming to it. Since knowl-

edge is not, for the critical realist, an apprehension, this actual dynamic relationship between conscious organism and environment does not set him an unsolvable problem. Only to the naïve realist of the apprehensional tradition is this the case. And I must frankly assert that Professor Dewey, as a naïve realist, avoids it only because he refuses to crawl out of his blanket terms, experience and objective situation. After all is said, I honor the neo-realist for his dogged persistency.

What, then, is epistemology? It is the reflective science which studies the nature, conditions, and development of human knowledge in the light of the available facts. It begins with a reflective study of the individual's field of experience, his distinctions and views of knowledge, and passes gradually to an hypothesis which will best harmonize the known facts. Approaching epistemology in this manner, I have been led to raise myself from the level of natural realism to that of critical realism. The result has been a view of knowledge which meets the demands of modern science and fits in with a flexible naturalism.

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STRUCTURE[1]

WE speak of the structure of buildings, poems, plants, animals, machines, states, and even atoms. The fact denoted by the term is of such importance for our knowledge and use of things that nearly all inquiry is devoted to the discovery of structure in specific cases. Moreover, this discovery has an obvious finality about it. Its explanatory value is high and satisfying. For whatever the end may be which any operation serves and whatever the cause may be which initiated the operation, our curiosity is largely satisfied and our efficiency is enhanced when we have discovered the structure to which the operation conforms. A watch may be made to keep time; if we ask why it keeps time, we are not satisfied by saying because it was made for that purpose by a watchmaker, but we are satisfied by knowing its structure. Having this knowledge we are able to increase the precision of watches. The eye may have been made in order that we might see, but, if so, we do not thereby understand vision. We understand it rather when we have discovered optical structure. Then, too, we are in a position to improve defective vision. The fact of structure is obvious. Illustrations of it, how-

[1]Delivered at the meeting of the American Philosophical Association, December, 1916.

ever, even if they are trite, may serve to emphasize the fact in some of its apparent varieties.

The user of materials may do many things with them provided that his use of them conforms to their structure. This is well illustrated in any problem of maxima and minima, as, for instance, the problem of determining what areas may be enclosed by a line of given length. Here the particular areas are limitless in number, but they are all limited by a single principle. This principle defines precisely the structure to which the operation conforms and within which, so to speak, it is confined, so that we know that the minimum area is the line and the maximum area the circle. This illustration may be paralleled indefinitely. Proper selection from among the illustrations would lead to recognized sciences which set forth the discovery of the structures within which are confined the operations with which these sciences deal. Mechanics would be one of these sciences. And it is clear that no matter how much mechanics may vary in its concrete discoveries or in the terms and instruments it finds best suited to its use, it will not vary in its attempt to discover the structure to which the equilibrium and displacement of bodies are confined. So far as this structure is concerned our conception of what bodies "really" are seems quite irrelevant. They may be the concrete things we perceive them to be, they may be "masses of matter" or "congeries of sensations," they may be molecules, atoms, or what not, their equilibrium and displacement conform to a precise and definite structure. Mechanics thus testifies to the fact of a structure of a particular kind within which and subject to which numberless operations of a particular kind can occur.

Chemistry affords another example. Not only do elements combine in definite ways, but the same elements subjected to different structural arrangements seem to produce an almost limitless variety of compounds. Ultimately, all chemical structures may be discovered to be mechanical. In that event we should recognize a welcome scientific simplification and an extension of the domain of mechanics. Such a possibility ought not to be prejudged even if in many chemical operations time appears to be a different factor from what it is in mechanics generally. To the latter science time seems to be relevant only as it is measured in terms of simultaneous displacements, while in chemistry successive or genuinely temporal displacements often seem to be involved. Although a remark of this kind ought not, in the present state of our knowledge, to be accepted as final, it serves, nevertheless, to indicate the possibility that structures may be matters of time as well as of space.[2]

[2] "The present physical and chemical structure of organism must be explained not only in terms of atoms and molecules, but also in terms of the his-

Biology seems to confirm this possibility. It has advanced in recent years to remarkable determinations in detail of the structure of living beings and of their operations. Recent experimental work on heredity, instinct, growth, and descent has revealed to us what we may call living structures with a fullness hardly suspected fifty years ago.[3] And it is these structures rather than any assumed vitalistic principles which, as we are wont to say, "accounts for" the variety of forms and operations. But since living is not something spread out in space, but something enduring in time, living structures seem to be characterized temporally in a way different from mechanical and chemical structures. A cell is not simply what it appears to be under the microscope. It seems to have also what we might call a suspension in time which can be ascertained only by allowing to it its proper duration. It is not only so much chemical substance encased, so to speak, in a particular mechanical structure, but it is also so many minutes or days of a specific kind of growth. Accordingly, its growing seems to be subject to a structure suspended in time fully as much as the displacement of its parts is subject to a structure extended in space. Conformably with the latter it may divide and conformably with the former its successive divisions result in a typical living form. In biology, therefore, we apparently meet with structures which, while they exhibit definite mechanical and chemical characteristics, exhibit also characteristics which can not be defined in these terms. These structures are of *kinds;* and when we exhibit definitely the kind in any instance, we point not only to a particular mechanical and chemical fact, or series of such facts, but also to a life history.[4]

Psychology, at present, is following the lead of biology, especially when the latter science deals with highly organized living beings. Many of the operations which we call mental are so evidently vital that a distinction between the mental and the vital is more often confusing than helpful. If we are to make a sound distinction at all, our considerations hitherto might lead us to make it in what we may call structural terms. In other words, if there are operations or activities of living beings which indicate a structure different from the mechanical, the chemical, or the biological, then we may

tory of living matter upon the earth." Comstock and Troland, *The Nature of Matter and Electricity,* New York, 1917, p. 194.

[3] See, for example, T. H. Morgan's *Mechanism of Mendelian Heredity* (New York, 1915), with its extensive references.

[4] I suspect that it is a confused recognition of the fact of life histories, as different from one another as different chemical compounds, that leads so repeatedly to vitalistic theories in biology, just as it is the failure to recognize the structural character of life histories which makes many "mechanical" interpretations of life so unsatisfactory and so unconvincing.

have a means of distinguishing mental from vital processes which may be advantageous. Such a difference appears to be the fact, for we recognize a kind of structure which we call logical. Whichever of the current attitudes toward logic we may take, we seem to be confronted with the fact that the operations of thought are subject to a structure which is not like that involved in the displacement of bodies, or in chemical combinations, or in life histories. The syllogism may be an inadequate expression of this structure, but it is an historically instructive one and shows how different the structure of thought is from the other types of structure we have considered. Every examination of the operation of implying or inferring seems to show the same difference. Ideas and propositions, whether spoken or unspoken, are subject in their movement to structural principles as definite and precise as the principle involved in the simple illustration of the line and the area with which we started. And these principles have that kind of aloofness from time and space which we indicate by the ordinary word "mental" and the extraordinary word "transcendental."

The foregoing illustrations naturally suggest the generalization that a structure of some sort is characteristic of all operations universally. In other words, whatever else the world or the universe or "reality" may be, it is at least a structure or a system of structures. Or we may say that it has structure as something genuinely, universally, and metaphysically characteristic of it. Whether it has one structure or many will be left here unconsidered. We shall be content to follow the lead of our illustrations and say that it has at least spatial, temporal, and logical structures which may be reducible to one type, but which will be left here without any attempt so to reduce them. Nevertheless, we shall speak in what follows of the fact of structure generally without distinguishing its apparent kinds.

Structure is a discovery and not an hypothesis. Naturally the discovery in particular cases may be generalized for cases not yet examined, so that belief in the universality of structure becomes a controlling belief. It may lead us to refuse the supposition that there is any operation which is structureless. But we do not begin inquiry by first supposing that there must be structure and then find that our supposition is borne out by the facts. Structure is met with in quite a different way. It is met in action and practise, by setting one stone upon another, for instance, and finding that stones must be set in certain ways if they are to stand up as a wall. The fact found out in such ways as this imposes itself on us, so to speak, confronts us, obstructs us after the manner of a brute fact, so that we must regard it as belonging to the subject-matter into

which we inquire and as independent of the fact that we discover it by inquiry. If we apply to it the distinctness current in philosophical usage, we must say that it is objective and not subjective, that it is *a posteriori* and not *a priori*, that it is empirical and not transcendental. In short, it is not an hypothesis invented by the mind for purposes either of explanation or control. It is a fact discovered, and discovered like other facts, as, for instance, that Saturn has rings.

Consequently there are many philosophical considerations irrelevant to it and on which it in no way depends. Its status as a genuinely discovered fact is independent of realistic and idealistic theories. It confronts materialism and spiritualism equally and unequivocally. Every brand of epistemology must bow to it, no matter how each brand may attempt to account for it, since each brand discovers it first and attempts to account for it afterwards. These statements need no other evidence than the recognition that the philosophical considerations implied by them, if they deal with structure at all, deal with it as a discovered fact which they attempt to elucidate or explain. In that sense only are they at all relevant to it. But they are in no sense relevant to its obviousness, its obstructiveness, or its bruteness. Any of these philosophies may be entertained without any alteration in the fact of structure either as a discovery of a general nature, or as a discovery specific in characteristic details. It stands out thus as one of the absolute metaphysical facts to which all speculation is subordinate.

Although philosophers may busy themselves with attempts to explain structure, there is no explanation of it, if by explanation we mean the finding of a reason why it should be. Of course there is explanation in the sense of making plain what structure is in specific cases and even what structure is in general. There is explanation also in the sense of showing what consequences flow from the fact of structure itself. But there is no explanation in the sense of showing why there is structure or why there is structure of any particular kind. A watch has a particular structure by virtue of which it keeps time; but if we ask why it has that structure, it is difficult to make clear precisely what we mean by the question. We can hardly say that the watch has its structure in order to keep time or because it keeps time, for manifestly its structure and its time-keeping go together simultaneously and not successively—the one is in no sense because of the other or for the sake of the other. To be sure, watches have been made in order that time may be kept, and that fact may show us why watches have come to be, but it does not show us why a watch in order to keep time or in just keeping time, has a structure

of a particular sort. The discovery of what the structure of a time-piece is or has got to be, if time is to be or is kept, is a very ultimate kind of discovery. It does not lead beyond itself. And what is true of the watch is true generally. God may have made all things after the manner in which a watchmaker makes a watch, for the purpose of having certain things done, but his purposes could not explain to us why things have the structure they are discovered to have. His purposes explain only what uses of structure he has chosen. And so the discovery that all things have structure is a very ultimate kind of discovery. It is absolute because the consideration of origin is quite irrelevant to it. No matter how things have been produced nor when, no matter whether they were ever produced or not, structure is an absolute fact about them, the kind of fact that does not lead beyond itself. There is no explanation of it because it is the kind of fact that does not require explanation.

All this is saying again that structure is really a discovery and a discovery of an absolute kind. That is, the inquiries which lead to the discovery of structure terminate absolutely in that discovery. Has structure been discovered or not? If it has been discovered, that ends the matter. From which it is clear that structure is not imposed upon things, but is something constitutional to them, so to speak. A watch does not have its structure imposed upon it by its maker. Neither does anything else. This is really saying again that structure needs no explanation, that the question why anything has structure is an idle question, but it is saying it in another way. Since structure is a discovery it may, like other discoveries, often be a surprise. Historically it seems to have been a surprise when made on a large scale. That things are fluid, so to speak, structureless, a kind of flux without law or order, subject to whim and caprice is not an unnatural supposition, so that the discovery of structure may come as a surprise and may lead to the question how was structure imposed upon the flux? But the discovery of structure in any specific case always disposes of this question by showing its futility. No one who understands the structure of a watch is surprised by it. We may be surprised at what is accomplished by means of the structure before it has been discovered, but when it is discovered we are not surprised that these things are accomplished by its means. Put in its most general form, the idea is this: order and uniformity cease to be objects of surprise when once structure has been discovered. There is then no longer any motive for accounting for them. They are not imposed upon the flux, but the flux exposes them in its movement. Structure is thus evidently a metaphysical discovery absolute and final.

Knowledge of structure is an eminently satisfying kind of knowledge. It reduces impressions, opinions, convictions, and beliefs to what we call science. Never do we understand anything more completely and finally than when we understand its structure. Such knowledge is in the highest sense explanatory, because it leaves nothing to be explained. By that I do not mean that it puts an end to all intellectual interest or that the discovery of structure is not progressive. I mean rather that did we know the structure of things thoroughly, all our intellectual interests would become practical and inventive. Science would become dogmatic while art would flourish. Since such complete knowledge would enable us to predict the consequences of any structural combination, all our ingenuity would be employed in inventing new combinations adapted to secure desired ends. All arts foreshadow such an ideal and especially the mechanical arts. For even if the principles of the classical mechanics are now under suspicion it is clear that their acceptance as so much settled dogma has been marvelously fruitful in inventions for man's use and comfort. And so it is that knowledge of structure gives us the great desiderata of all knowledge, namely, science and prediction, on the one hand, and control in the interest of desired ends, on the other.

Such complete knowledge, even if attained, would probably not put an end to attempts to conceive existence generally in terms which will satisfy human aspiration. But these attempts would not increase knowledge or add a new department to science. They would not, therefore, be either needless or profitless. They would be instances of an art which transforms existence by refining, beautifying, and ennobling it as does a picture or a song. In a world where pictures are painted and songs sung, it would be quite ridiculous to say that the imagination ought not to leap to a vision of providence or of a moral order. For a knowledge of structure would show that poetry and religion, as clearly as anything else, are not miraculous, and that they are not unnatural. But it would show also that they are not scientific, and that they do not increase our knowledge. Yet they do beautify existence and enhance the control of it. They put into the world heavenly pictures, so that he who contemplates them may be the more at home in this physical world.

There is apparently little difference, if any, between structure and what is called substance by metaphysicians. The latter term is more ambiguous in its usage and has associated with it many conflicting ideas. Yet when we speak of substance as that which exists in its own right, or as that which persists through all changes, or that which is defined in its own terms, or that which stands under,

or as that which has attributes, or as that the knowledge of which is conclusive and final, we are using expressions which seem equally applicable to structure. Indeed, when the term substance is used to identify anything beyond the particular subject of discourse at any time, it seems to carry us to much the same conclusions as a consideration of structure carries us. But the term structure has the advantage of freeing us from many perplexing associations. To speak paradoxically it is less substantial. It means something absolute without meaning God. It means that without which nothing can be or be conceived without meaning something which should be eulogized or made an object of emotional attachment. It is more expressive than the term substance is of an ultimate fact actually discovered. But our habit of thinking of structure as something possessed by the world or by things, suggests the advisability of linking it more closely with the older term. For although we may say that a watch has a certain structure we do not thereby mean that the watch is more ultimate than the structure it is said to have. And so with the world—it does not possess its structure, but is rather its structure when we wish to express a final and absolute fact about it.

This linking of the terms structure and substance enables us to speak of structure more naturally as a subject to which predicates may appropriately be attached. We may then say not that the world has structure, but that structure is the world. In other words, the attempt to form a conception of all things together or to speak of the universe or nature generally is an attempt which does not successfully carry us to the recognition of a single complete and self-enclosed whole of things, but rather to the fact that however endless the succession of events may be, or however manifold the number of identifiable things may be, ultimately there is unity of structure. And it is this discovered fact of unity of structure rather than some supposed wholeness with nothing left out which may properly be called the world or the universe. We might then say that beyond structure there is nothing, without meaning that within structure everything past, present, and to come is already somehow included. We should mean rather that all there is to structure is completely knowable because structure is itself complete, but that it is the only thing of which this can be said.

Linked with this completeness of structure is its principal attribute—as I should like to call it, still using substantial terms. That attribute is inertia. I have already indicated that structure is discovered as a brute fact. It is met with not by way of hypothesis or conjecture, but by way of opposition or resistance. Everything that happens conforms to it, but it of itself does nothing. Our orig-

inal illustration is here again suggestive. The structural principle of the many areas is a principle to which each of them must conform. Figuratively speaking, it sets a limit beyond which they can not go. But it produces no single area, although an infinity of areas is producible. As over against them structure is absolutely inert. And this seems true generally. Structure is the inert principle of all existence. On this fact itself I do not now dwell, although the derivatives of it are interesting and illuminating. I wish rather to venture one further generalization, namely, the identification of structure with matter when matter is metaphysically conceived. When so conceived—and here again we seem forced into paradoxical statements—when so conceived, matter loses its material qualities. These qualities, like solidity, fluidity, *etc.*, as well as all the so-called secondary qualities, have long appeared to men as convertible into one another and to afford no absolute basis for exact determination. Even the conception of chemical elements is seriously attacked on both theoretical and experimental grounds. But the conception of structure remains intact and to this conception still cling the so-called primary qualities of matter like inertia and those which are only quantitatively and relationally expressible, like weight. If the materials of things are convertible, it seems evident that in no sense can any one of them be more final and primary than any other; but if all are convertible in terms of changeless structural principles, these latter would appear to give us just that absolute conception of an inert factor in existence which has long borne the name of matter. This proposed identification of structure with substance and with matter is here only suggested. I hope at another time to elaborate it.

Indeed the points put forward in this paper are all in need of elaboration. But it has occurred to me that they might prove suggestive as indicating a field of metaphysical inquiry apparently free from the controversial questions of much recent philosophy. The considerations here suggested seem to me to afford scope for inquiry and discussion independent of mooted questions about the truth of perception or the possibility of knowledge.

FREDERICK J. E. WOODBRIDGE.

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THE FIRST ANTINOMY OF KANT

THE thesis of Kant's first antinomy is unsound because in the course of the proof a hypothesis is implied which contradicts the orignal hypothesis. The passage in the Meiklejohn translation runs as follows:

THESIS

"The world has a beginning in time.

PROOF

"Granted, that the world has no beginning in time; up to every given moment of time, an eternity must have elapsed, and therewith passed away an infinite series of successive conditions or states of things in the world. Now the infinity of a series consists in the fact that it never can be completed by means of a successive synthesis. It follows that an infinite series already elapsed is impossible, and that consequently a beginning of the world is a necessary condition of its existence. And this was the first thing to be proved."

The proof may be paraphrased as follows:

THESIS

The world has a beginning in time.

(1) Suppose the contrary, that is, that the world has no beginning in time.

(2) Then an infinite number of hours must have elapsed up to the present.

(3) But time, up to the present, is completed, and (4) no infinite series can be completed.

Leaving the paraphrase, (4) is false unless we suppose that the infinite series *has a beginning,* which contradicts the hypothesis (1).

Let us illustrate the point. If an infinite series has a first term and each term has a definite successor, there can be no last term; for example, the infinite series

0, 1, 2, 3, . . .,

beginning with zero, can have no last term.

But an infinite series may have a last term provided it has no first term, for example, the series

. . . 3, 2, 1, 0,

ending with zero, but having no first term, is infinite.

Therefore, to say that a series is not infinite because it has a last term is to say that it has a first term; for example, the series

3, 2, 1, 0,

which has a last term zero, is not infinite because it has a first term, 3.

But it is this hypothesis (that the time series has a first term) which Kant explicitly rejects at the outset of his proof. His fallacy is of the following familiar type. To prove that on a clear day it rains.

Proof. (1) It either rains or it doesn't.
(2) It doesn't; throw out that case.
(3) Therefore, it rains.

Apparently, the only alternative for one who wishes to defend Kant's position is that the mathematical notion of an infinite sequence is self-contradictory. Readers of this JOURNAL will find the notion set forth in detail in an article "On the Notion of Infinity," August, 1915. If the mathematical position is sound, then Kant's position is unsound and *vice versa.* Kant himself confuses the *infinite,* which he pretends to respect, and the *indefinite,* for which he has no regard. Kant's indefinite is the mathematical infinite, and what Kant's infinite is I am unable to make out. For me it is without meaning.

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SOCIETIES

NEW YORK BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

THE New York Branch of the American Psychological Association met in conjunction with the Section of Anthropology and Psychology of the New York Academy of Sciences on Monday, April 23, at Columbia University. The following papers were read and discussed:

The Speed and Accuracy of Motor Adjustment.—JOHN J. B. MORGAN.

An experiment in which the subjects were instructed to pull with their maximum force weights attached to a rope showed, from the graphic records obtained of each pull, that when the size of the weights is unexpectedly changed the subject adjusts himself by a change in force rather than a change in the speed of his pulls. The time required to make this adjustment is less than $\frac{1}{20}$ of a second (much less than the simple reaction time) and hence must be a reflex or a local muscular phenomenon.

In another experiment where the subjects were instructed to pull four different weights with the same force, and were allowed before pulling a new weight to make trial lifts, it was found that the *force* was much more radically changed with the different weights than the *time.*

These two experiments show that the force an individual uses varies either by a reflex or local muscular adjustment with the resistance encountered; and that with the extent of a movement re-

maining the same, one can adjust only in a very crude way the time of his movements so that with different weights the resultant physical force will be the same.

Measurement of Prospective Teaching Ability.—G. C. MYERS.

Training school students in several classes of from 16 to 28, who had worked together in the same groups from five to ten months, ranked one another in various school subjects, in prospective teaching ability, and in numerous traits of character. Some of these factors were also ranked by the teachers. Furthermore, ten traits of personality were ranked in the order in which they were esteemed. Correlations between the various subjects and traits by the students and by the teachers, and between the ratings by the teachers and those by the students, are being determined, variability in rankings, and correlation between the esteem of a given trait and the possession of that trait. Only those data bearing on prospective teaching ability were reported.

The correlations between teachers' and students' ratings in prospective teaching ability were as follows for five classes of students: .14, .45, .68, .86. The correlation between students' judgments of prospective teaching ability and school subjects was .85; between prospective teaching ability and likableness .90; between general intelligence and school subjects .89; between prospective teaching ability as judged by the teachers and school subjects .62. The correlations between prospective teaching ability, personality, general intelligence, and ten traits of character are given in the following table:

Correlation[1] of	P. T. A.	Personality	General Intelligence
Address	.892	.745	.749
Culture	.597	.818	.573
Enthusiasm	.674	.751	.683
General intelligence	.824	.442	—
Optimism	.239	.568	.145
Personal appearance	.523	.736	.292
Sincerity	.565	.336	.704
Sympathy	.454	.815	.351
Tact	.652	.892	.570
Vitality	.589	.773	.573
Personality	.654	—	.582

The indications are that the students are better judges of who will make a good teacher than the teachers are. The very low correlation between the ranking of the teachers for prospective teaching ability and that by the students may be attributable in part to the

[1] Total of the rankings in the ten traits with ranking in general personality correlated .931. These ten traits generally considered important in teacher ratings were ranked in the following order: culture, personal appearance, general intelligence, sincerity, sympathy, tact, optimism, address, vitality, enthusiasm.

fact that the students put more emphasis on general intelligence as an index of prospective teaching ability than the teachers do, as indicated by the correlations. The fact that the teachers vary far more for the selected groups than for the other groups is also suggestive.

Some Problems in Dream Interpretation.—LYDIARD H. HORTON.

The Law of Effect in Relation to Neuroses.—T. H. AMES.

The application of Thorndike's Law of Effect to functional nervous diseases is instanced in three cases of hysteria, to show that symptoms which are apparently annoying are subjectively satisfying to patients in that they are relatively less annoying than other responses to the same causing stimuli would be. With Professor Thorndike's approval, the following re-wording of his law was made: Responses which are accompanied or closely followed by discomfort and which are continued with strengthened connections with the situations give relatively more satisfaction than annoyance in that other responses to the same situation would give more annoyance.

The Effect of Alcohol upon Habit Formation in White Mice.—HALSEY S. BAGG.

The present report is a preliminary account of a series of experiments that is now under way, designed to test the effects of the inhalation of alcohol fumes upon the formation of maze habits in mice. The results so far obtained are of sufficient interest in themselves to warrant their being placed on record at the present time.

The method of treatment was similar to that used by Dr. Stockard in his work on guinea-pigs. The mice were placed in a glass jar upon wire netting over cotton wet with alcohol. The mice were left in the jar until they were thoroughly intoxicated, as indicated by their inability to stand. The maximum treatment was one hour per day for each mouse.

Thirty mice, about 28 days old, were divided into two equal groups; in one group the rate of learning was first determined in a simple maze, and the mice were treated by the inhalation method without interrupting the maze test; while in a second group the alcohol treatment and maze learning began at the same time. In each case the mice were first tested in the maze, allowed to feed for about 30 minutes, and then given the alcohol treatment. They were not again tested in the maze until the following day when they appeared completely recovered from the previous treatment. Normal mice, not treated by the alcohol fumes, but tested in the maze at the same time and under similar conditions, served as controls.

The results for both groups of alcohol mice showed a decided slow-

ing up in the process of habit formation. In the first group the animals that had previously made normal records, without the alcohol treatment, were found to make slower average records when the treatment was instituted, and in like manner, the second group showed that when the alcohol treatment and the maze learning were begun at the same time the daily records were again inferior to those of the control group.

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Secretary.

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REVIEWS AND ABSTRACTS OF LITERATURE

A Realistic Universe. JOHN ELOF BOODIN. New York: The Macmillan Company. 1916. Pp. xxii + 412.

May a pragmatist be a metaphysician? And if so, what sort of metaphysics would it be? An affirmative and constructive answer to these questions is given by Professor John E. Boodin in *A Realistic Universe,* a rather large volume of 412 pages.

It was the boast of Kant that he had banished metaphysics from the domain of philosophical inquiry. Philosophy as criticism must thenceforth confine itself to a theory of knowledge. It has seemed that pragmatism, at least here in America, has been advancing along the lines marked out by Kant. It began as a method, advanced to a theory of truth, continued as an analysis of experience, and is now applying this analysis to the concrete problems of life and conduct. It might well be termed the new criticism. The center of gravity in philosophy, due to the pragmatic criticism, has been rapidly shifting from metaphysics to an analysis of moral, social, economic, and political problems.

In view of this apparent abdication of metaphysics, and the drift of philosophy toward the social sciences, the appearance of a book on pragmatic metaphysics is both significant and interesting. I don't know that the pragmatist has so much ignored metaphysics as that he has been interested in doing other things.

A Realistic Universe is a metaphysical treatise written from the pragmatic point of view issuing in a doctrine of realism. Pragmatism, metaphysics, realism—that is the combination effected in Professor Boodin's book, an alliance requiring a good deal of insight and adjustment to maintain.

In general, one may say that the possibility of metaphysics depends on the power of thought to comprehend reality. The new realism can easily issue in metaphysics because the new realist takes

such a view of the function in thought that metaphysics is a possibility. When Kant said "the rational is the phenomenal," of course thought was inadequate to arrive at a knowledge of things in themselves. But when Hegel pointed out that the phenomenal *is* the real, and that, therefore, "the real is the rational," the relevancy of thought to reality seemed established. New realism is just as extreme an intellectualism as Hegelianism. Its underlying assumption is that what is true for intellectual analysis is at the same time true for reality. The new realist equates reality with logical analysis, just as when Porphyry was dichotomizing the concept of being, he thought it was being that he was dividing. For new realism, as for Hegel, logic and metaphysics are one and the same thing.

Bergson, on the other hand, denies outright the relevancy of thought to reality. There is no approach to metaphysics through intellectual analysis.

Now the pragmatist accepts neither the extreme intellectualism of the realist, nor the anti-intellectualism of Bergson. It is for this reason that the possibility of a pragmatic metaphysics is an interesting inquiry. Can you accept the pragmatic doctrine of the origin, nature, and function of intelligence, and at the same time, with intelligence as your instrument, give a constructive metaphysics? Professor Boodin thinks that you can. He writes: "Let us give thought a fair field at the outset. Let us not discredit the instrument because it has a character of its own. It could not be an instrument otherwise. The universe in its own selective movement forged it, in the long ages, for just such a world as ours and such needs as ours" (p. xvi.). Pragmatic metaphysics steers a middle course. Between life whole, but unanalyzed (Bergson), and life analyzed, but dead (new realism), there is the experimental alternative of *vivisection*.

Professor Boodin is very clear in his initial definitions. "As applied to metaphysics the pragmatic method means that we must judge the nature of reality, in its various grades and complexities, by the consequences to the realization of human purposes, instead of *a priori* assumptions" (p. vii.). By reality, then, he means the differences made to our reflective purposes. "These differences are capable of being systematized into certain attributes—*summa genera* of differences not further reducible" (p. 385). There are five such attributes which constitute the subject-matter of metaphysics. They are: energy, consciousness, space, time, and form. These attributes are not in any sense ideal or phenomenal; they are genuine aspects of reality. Therein consists the author's realism. The book is, therefore, divided into five parts, each treating separately one of the five attributes.

Part I. is on "Being" or the "stuff character of reality." By stuff the author means energy. This division of the book is especially valuable as containing a philosophical analysis of the scientific concept of energy. It is a resumé of the position of contemporary science. Part II. deals with the attribute of consciousness. The subject of the nature of consciousness is the topic which has received a great amount of attention during recent years. The chapter entitled "Examination of Theories" contains a fairly comprehensive account of current theories. The author's own view has much in common with the diaphanous theory of Mr. G. E. More. Consciousness makes the difference of awareness. It is a "neutral light," colorless, without differentiation, mechanism, or efficiency. Parts III. and IV. deal with space and time, respectively. Each is treated in realistic fashion, its reality depending on the difference it makes to our reflective procedure, space making the difference of "translation," and time that of "transformation." The author's treatment of time has much in common with that of Bergson, though it was worked out in independence of him. The fact of change, of process, of productivity demands the objective reality of time.

Part V. treats of form, that is, of the direction and evaluation of things. Nowhere has the pragmatic reaction broken more abruptly with tradition than in its treatment of progress. Modern philosophy has presented progress as a sort of pensioning on the part of the absolute. Pragmatism has modified the absolutistic doctrine of ready-made objectives into a doctrine of projectives, they being framed by intelligence as means of advancement and control. Where are things headed? That depends, the pragmatist is likely to say, on where you want them to go. Give a circle consciousness and it will go straight to circularity. But then circularity is there to go to. But where is reality headed? The objective reality and productivity of time forces the question to an issue. In answer to the question Professor Boodin develops a doctrine of teleological idealism. Direction is a metaphysical attribute, and consequently a sound basis for a faith philosophy.

In this brief notice of Professor's Boodin's book I have made no attempt at critical estimation. I am only calling attention to a noteworthy and well-nigh novel endeavor, that of writing a pragmatic metaphysics.

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Experiments in Educational Psychology. DANIEL STARCH. Revised and Enlarged. New York: Macmillan Company. 1917. Pp. ix + 204.

The first edition of this book was published in 1911, and was re-

viewed in this JOURNAL.[1] "The chief changes in this edition consist in the addition of three short chapters, several tables of results for various tests, and a number of questions on the results of experiments."

The new chapters deal with the following topics: "Individual Differences in Abilities in School Subjects," which applies the general category of "individual differences" to school ratings; "The Distribution of Marks," which sets forth the principles of the theoretical distribution of students along a "normal probability curve"; and "The Coefficient of Correlation," which gives one of the methods of computing this coefficient (the "Pearson rank method"), and illustrates its application.

These additions help the book by attempting to relate its materials somewhat more closely to certain pertinent school conditions. There is, it is true, a typical academic fault in this new material. For example, in the chapter on the "Coefficient of Correlation," Pearson's formula is given *ad hoc,* with no suggestion as to its derivation. It seems simply an arbitrary mode imposed upon facts —as so much more non-intelligible material, to be used, although not understood.

Of course, no one would think of turning back the study of educational psychology to the old days of generalization upon uncontrolled experience. But as one finishes the average text in educational experimentation, it is with the feeling that the author conceives the child to be essentially a plastic nervous system, of varying degrees of impressionability, with varying degrees of resistance, persistence, and powers of renewal—all to be molded by the teacher into forms of habit which will be determined by the interplay between these "native characteristics" of the nervous system and the skill and determination of the teacher.

Such a conception is valuable, and has its place in the whole field. But it is only part of the story. Such a presentation of materials ought never to be used alone. Its place is in connection with a general analytic course in educational psychology. The whole world is striving, to-day, to find the basis of a more thoroughly social educational procedure. This involves the development of a child who shall be not merely *habit—i. e.,* properly molded nervous system—but also *thinker—i. e.,* self-directing personality. The proper development of adequate habit is an essential of this outcome: it is in the field of habit-building that most of the work in educational experimentation has its application. But this is but one aspect of the problem: habit is essential—as the basis, the mechanism. But

[1] Vol. IX, p. 246.

democracy demands that education shall go beyond habit-building. So democratic educational theory will demand that educational psychology shall go beyond the processes of habit-building. All of which means that such a manual as this furnishes excellent material for *one aspect* of the course in educational psychology—but not for the whole course.

As a brief manual for such use in connection with the general course in educational psychology, it is excellent. And the social common sense of the teacher should be sufficient to protect the student against the possible evils inherent in any manual of experiments.

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JOURNALS AND NEW BOOKS

JOURNAL OF ABNORMAL PSYCHOLOGY, April–May, 1917. *A Study of the Anæsthesia, Convulsions, Vomiting, Visual Constriction, Erythema, and Itching of Mrs. V. G.* (pp. 1–24): EDWARD J. KEMPF.—The account of a patient at a state hospital for the insane is discussed. The conclusions drawn are in part that "Psychoneuroses are conditioned reflex activities and are pathological because the affections have become conditioned through experiences to react to stimuli that normally should have an indifferent influence." *Some Analyses in the Psychopathology of Every-day Life* (pp. 25–53): H. W. FRINK.—Several cases are mentioned where persons have forgotten words in speaking or writing and explanations are offered. *The Mental Imagery of Stutterers: An Examination of Certain Current Theories* (pp. 34–43): JOHN M. FLETCHER.—A review of some of the theories of stuttering is given with criticism against certain theories concerning the essential pathology of stuttering. No permanent peculiarities of imagery that would distinguish stutterers from normal persons exist. *The Stuttering Boy* (pp. 44–48): KNIGHT DUNLAP.—Few girls stutter. The fear of uttering his gutter-vocabulary in the hearing of his family may cause the boy to stutter. *The Deforming Influences of the Home* (pp. 49–57): HELEN WILLISTON BROWN.—Parents should be brought to consider their children as children of the world as well. *The Meaning of Psychoanalysis* (pp. 58–68): TRIGANT BURROW.—By specific psychoanalysis is meant that which is synonymous with Freud. *Reviews:* J. A. Green, Life and Work of Pestalozzi: ARNOLD L. GESELL; William Stern, The Psychological Methods of Testing Intelligence: ARNOLD L. GESELL; G. V. N. Dearborn, The Influence of Joy: MEYER SOLOMON: S. J. Holmes, Studies in Animal Behavior: ROBERT M. YERKES. *Books Received.*

REVUE PHILOSOPHIQUE, June, 1917. *Vie et fonctionnement* (pp. 497–523): F. LE DANTEC.–Every moment of life, studied from the mechanical, chemical, and colloidal levels, can be represented by the equation: $A_{n-1} + (A_{n-1} \times B_{n-1}) = A_n$, where A represents the total structure of a living being at a given moment, and B the sum-total of agents, of whatever level, which concur at the given moment in the determination of the total attitude of A, and $A \times B$ the interaction of the two. *Du fondement des jugements esthétiques* (pp. 524–546): E. GILSON.–"The relativity of works of art can be admitted without admitting their equivalence provided that one recognizes at the same time a psychical hierarchy of human beings." *La conception de la religion chez Renan* (pp. 547–572): R. LENOIR.–Midway in Renan's investigations philology becomes literary criticism, the study of the origin of religions is transformed into a philosophical theory of religion, and Christianity becomes the type of religion. In place of Christian spiritualism and of the conclusions of his study of religions, Renan comes to substitute a moral and metaphysical idealism. *Revue Critique.* René Worms, *Natalité et régime successoral:* GASTON RICHARD. *Analyses et Comptes rendues.* E. Boirac, *L'Avenir des sciences psychiques:* L. DUGAS. *Revue des Périodiques.*

Bosanquet, Bernard. Social and International Ideals. London: Macmillan and Company. 1917. Pp. lx + 325.

NOTES AND NEWS

ETHICS AND INTERNATIONAL RELATIONS

BY arrangement with Professor Tufts, my part in the discussion on "Ethics and International Relations" at the December meeting of the Association will be to discuss "whether the idea of sovereignty is incompatible with the acknowledgment of moral obligation by states." On this question I would submit the following theses:

1. The application of a moral code to any group of beings presupposes a kind of equality. The kind of equality required is compatible with differences of size, wealth, population, intelligence, *etc.:* it concerns only responsibility, namely, a power to appreciate the good at stake, an equal concern in that good, a power to act for or against it, and an acknowledged liberty to do so without interference by others.

2. The idea of sovereignty, so far from being incompatible with

moral obligation, indicates the kind of equality among sovereign states which alone makes obligation applicable.[1]

Sovereignty does not mean emancipation from moral requirement. The independence implied in sovereignty, namely, finality of decision on the part of supreme courts, legislatures, chief executives, and foreign offices, is analogous to the independence implied in maturity, not to the independence implied in the "state of nature." In passing from the condition of part-sovereign state to that of sovereign state, a state ceases to be an international ward, and becomes an international citizen, with rights and duties now capable of fairly definite formulation.

3. But there are elements in the situation between sovereign states which have no analogue in the situation between human individuals, so that the principles applicable to the one are not forthwith applicable to the other. In the main, they are these:

a. The being of an individual may be regarded as biologically established; the being of a state is never finally established. Hence a whole group of unique questions which are for states questions of existence. In fact, for the state, every change of property or of prestige is a change of being; hence in every such change, its existence is at stake.

b. The irregularities of geography, history, race, and cultural complex make the entity of every state unique, and its historical task unique, in a manner not paralleled among human individuals of a given state. The general and uniform obligation to "fulfil its mission" would carry with it in each case a set of wholly unique duties. The morality of general rules and precedents, or the morality of "universalizing the maxim" [*i. e.*, the maxim of any but the original purpose of fulfilling the unique historic task] fails to apply just in so far.

c. Each act of self-seeking on the part of states is an act of altruism to its members actual and unborn, in a manner without complete parallel in the moral relations of individuals to one another.

d. Since the *status quo* among states, in regard to extent and composition, is a matter of fact rather than a matter of justice, alterations of the *status quo,* whether by violence or otherwise, may conceivably establish a new status which in time would be at least equally acceptable. The disposition of new individuals to accept the *status quo* as a fact tends to obliterate in time the sense of moral injury.

4. Differences (*c*) and (*d*) are on the decline and as the body of

[1] As opposed, for example, to the conception of sovereignty set up for criticism by H. J. Laski in *The Problem of Sovereignty,* 1917.

international understanding increases, they tend to vanish. It may be said to be a primary international duty to banish them.

5. The success of a moral order among states depends on a general recognition of the remaining points of difference; any attempt to transfer bodily to inter-state affairs the ethics of individual life will but prolong the era of war.

6. There is, however, a permanent nucleus of common principles, which include (1) the subordination of the Darwinian struggle for survival among states to the development of a common body of international goods, and (2) the common obligation of all states to intervene by force in the maintenance of this rule and of these goods.

W. E. HOCKING.

HARVARD UNIVERSITY.

AT the meeting of the American Philosophical Association this month, the Committee on Discussion expects voluntary contributions on the two special topics of discussion. Those who wish to make such contributions are requested to notify the Secretary, Professor E. G. Spaulding, Princeton, New Jersey, as early as possible, preferably on or before December 10.

DR. CHARLES HUGHES JOHNSTON, professor of secondary education in the University of Illinois, was killed in an automobile accident in September. Dr. Johnston was editor of two important books on the high school and as editor of *Educational Administration and Supervision* he exerted a stimulating influence upon progressive school men.

PROFESSOR CHARLES W. COBB, associate professor of mathematics in Amherst College, has been granted leave of absence for one year to enter the aviation work of the government. He will hold a position in the Bureau of Instruction that supervises the teaching in the eight ground schools for aviators.

DEAN JAMES R. ANGELL, of the department of psychology at the University of Chicago, has been relieved from his university duties and has gone to Washington to work in the offices of the National Research Council.